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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/689,460

10/20/2003

Brian David Hayes

60130-1676;02MRA0572

4168

26096

7590

03/11/2005

CARLSON, GASKEY & OLDS, P.C.

400 WEST MAPLE ROAD

SUITE 350

BIRMINGHAM, MI 48009

EXAMINER

TANG, SON M

ART UNIT

PAPER NUMBER

2632

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/689,460

Applicant(s)

HAYES, BRIAN DAVID

Examiner

Son M Tang

Art Unit

2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/20/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1- 2, 4, 6-8, 10-11, 13-15 and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Stoyka [US 5,552,759].

Regarding to claims 1 and 13: Stoyka discloses a wheel assembly comprising:

-a wheel 44 mounted to a hub 130; and

-a sensor 110 to selectively generate a signal indicative of relative movement between said wheel and said hub [as shown in Fig. 9B, col. 5, lines 8-12 and col. 10, lines 39-46].

Regarding to claims 2, 17: Stoyka further discloses a transmitter 20 and a controller 14 [see Fig. 1].

Regarding to claims 4 and 6: Stoyka further discloses that sensor is mounted to said hub and further comprises a pointer 102 engaged with said wheel [see Fig. 8 and 9B].

Regarding to claims 7-8, 14-15 : Stoyka further discloses that pointer is attached to a signal generator [20] and moves in response to relative movement between the hub and the wheel [cited in col. 5, lines 8-11, and lines 19-25].

Regarding to claim 10: Stoyka further discloses a biasing member 104 [see Fig. 6, col. 10, lines 27-30].

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Regarding to claims 11, 19: Stoyka further discloses that wherein said sensor comprises an optical motion detector [see col. 5, lines 2-8].

Regarding to claim 18: Stoyka further discloses that pointer comprises a cylindrical member having an end fixed to said wheel [see Fig. 8, col. 9, lines 55-65].

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5, 12 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stoyka [US 5,552,759].

Regarding to claim 5: Stoyka discloses the sensor mounted to said hub above, except for specifically disclosing that the hub includes an opening for sensor mounted within the opening. Stoyka further stating that sensing assembly 110 mounted to the hub [Fig. 9B], which comprises a fastener end portion 112 with external threads 114 may be used to attached to any internally threaded socket [see Fig. 8, col. 9, lines 55-64]. Therefore, it would have been obvious of one having ordinary skill in the art to recognize that, internally threaded socket is constituted an opening on the hub, so sensing assembly 110 be able to mount.

Regarding to claim 12: Stoyka discloses an optical detector as described in claim 11 above, but lack in specifically disclosing a light emitting/receiving portions. Examiner take

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official notice that light emitting/receiving portions is well known features in optical motion detector.

Regarding to claims 20-24: The claimed method steps are interpreted and rejected as rejection stated above.

5. Claims 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stoyka in view of Williams et al. [US 6,424,261; Williams].

Regarding to claims 9, 16: Stoyka disclose all the limitation as described in claim above, except for not specifically disclosing a piezoceramic material generating an electric current in response to movement of said pointer. Williams teaches a movement sensor 10 comprises a piezoceramic element 11, which generates an electric current in response to movement of the sensor [as shown in Fig. 1-2 and col. 3, lines 19-42]. Since, piezoceramic material sensor is known in the art uses to detect movement, therefore, it would have been obvious of one having ordinary skill in the art at the time of the claimed invention, to use piezoceramic material as taught by Williams, into the sensor system of Stoyka for enhancing sensitivity.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stoyka in view of Mantini et al. [US 5,959,365; Mantini].

Regarding to claim 3: Stoyka disclose all the limitation as described in claim above, except for not specifically discloses a display in communication with said controller. Mantini teaches an early warning device for tire rims and hub assemblies comprises a display-

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warning device 10 [see col. 4, lines 43-50]. It would have been obvious of one having ordinary skill in the art at the time of the claimed invention, to combine a warning display as taught by Mantini, into the warning device of Stoyka, for the benefit of better recognize the problem and location.

***Conclusion***

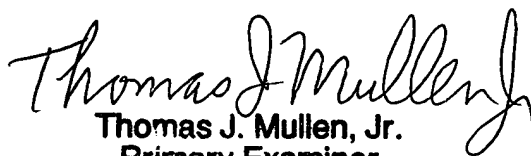
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rosenberger [US 4,947,151], Ehrlich et al. [US 6,675,640] and Moretti et al. [US 6,672,681].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son M Tang whose telephone number is (571)272-2962. The examiner can normally be reached on 4/9 First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J Wu can be reached on (571)272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Son Tang

  
**Thomas J. Mullen, Jr.**  
**Primary Examiner**  
**Art Unit 2632**